

From the INTERNATIONAL BUREAU

PCTNOTIFICATION CONCERNING
TRANSMITTAL OF COPY OF INTERNATIONAL
PRELIMINARY REPORT ON PATENTABILITY
(CHAPTER I OF THE PATENT COOPERATION
TREATY)

(PCT Rule 44bis.1(c))

To:

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Date of mailing (day/month/year)

16 September 2010 (16.09.2010)

Applicant's or agent's file reference

ART044PCT

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IMPORTANT NOTICE

International application No.

PCT/US2009/035889

International filing date (day/month/year)

03 March 2009 (03.03.2009)

Priority date (day/month/year)

03 March 2008 (03.03.2008)

Applicant

ARTHROSURFACE INCORPORATED et al

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44*bis*)

Applicant's or agent's file reference ART044PCT	FOR FURTHER ACTION	See item 4 below
International application No. PCT/US2009/035889	International filing date (<i>day/month/year</i>) 03 March 2009 (03.03.2009)	Priority date (<i>day/month/year</i>) 03 March 2008 (03.03.2008)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant ARTHROSURFACE INCORPORATED		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44*bis*.3(c) and 93*bis*.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44*bis*.2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 07 September 2010 (07.09.2010) Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Philippe Becamel</div> e-mail: pt12.pct@wipo.int
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2009/035889

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed.
 - ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:
 - a. type of material
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing
 - ☐ contained in the international application as filed
 - ☐ filed together with the international application in electronic form
 - ☐ furnished subsequently to this Authority for the purposes of search
4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

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PCT/US2009/035889

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box V.

Regarding claim 14, Ek discloses the method of claim 11, further comprising: advancing a cannulated tap over said first guide pin and into said bone to tap area of bone surrounding said first guide pin; advancing a tapered post over said first guide pin into the tapped area of bone to secure said tapered post into said bone (Para. 113, The tapered post fixation feature of the implant may be pressed into the tapered socket to provide a secure frictional engagement therebetween.).

Regarding claim 15, Ek discloses the method of claim 14, further comprising: selecting an implant comprising a load-bearing surface that substantially matches said curvature of said bone and having a curvature based on at least one said depth measurement, said implant is dimensioned to fit within, at least, said first and second sockets (Para. 131, The geometry or curvature of the overlapping implant portions may be based on the articular surface being replaced, e.g. based on data collected using measuring or mapping techniques. Further, Para. 106, the guide rod and or the cutting instrument may include indicia representative of a cutting depth. According to such an embodiment, the depth of the first excision site may be controlled with reference to such indicia.); said implant also comprising a bone-facing surface (Para. 132 bone-facing surfaces) comprising a recess configured to mate with the taper of said tapered post; installing said implant into said first and second sockets by mating said recess with said tapered post (Para. 106, precision tapered socket).

Claims 2, 12, and 13 lack an inventive step under PCT Article 33(3) as being obvious over Ek, in view of Sanford et al. (herein after referred to as Sanford).

Regarding claim 2, Ek discloses the method of claim 1. Ek does not disclose wherein said first and second working axes are established, in part, by advancing first and second guide pins into said bone, said guide pins extending from said bone. Sanford, however, teaches an implant site for a bone (Fig. 19, 72) wherein a first and second working axes are established, in part, by advancing first (Fig. 1, 34) and second (Fig. 1, 40) guide pins into said bone, said guide pins extending from said bone (Fig. 19, where pins 34 and 40 are extending from bone 72). At the time of the invention it would have been obvious to one skilled in the art to include the first and second guide pins taught by Sanford in the method of Ek. The motivation for doing so would be to established increased support for the implant during and after the procedure.

Regarding claim 12, Ek discloses the method of claim 11, further comprising: removably coupling a cannulated bushing into said second bore prior to installing said guide pin (Para. 112 The pin or rod may be sized to be received in the holes in the articular surface 612 provided using the drill guide 600. An excision site may be formed by inserted a distal end of the pin or rod in a hole associated with a working axis 614, or 616 and rotating the cutting instrument with in the hole, the hole in the articular surface may serve as a bushing for the cutting instrument.). Ek does not disclose a second guide pin.

Sanford, however, teaches an implant site for a bone (Fig. 19, 72) wherein a first and second working axes are established, in part, by advancing first (Fig. 1, 34) and second (Fig. 1, 40) guide pins into said bone, said guide pins extending from said bone (Fig. 19, where pins 34 and 40 are extending from bone 72). At the time of the invention it would have been obvious to one skilled in the art to include the first and second guide pins taught by Sanford in the method of Ek. The motivation for doing so would be to established increased support for the implant during and after the procedure.

Regarding claim 13, Ek discloses the method of claim 11, further comprising: advancing a reamer over said guide pin and rotating said reamer about said guide pin to create said socket in said bone (Para. 112, A cutting instrument, as described with respect to the foregoing embodiments, may be used in combination with the guide pins, or guide rods, associated with each working axis 614, 616 to excise a portion of the articular surface 612 and underlying subchondral bone.). Ek does not disclose wherein the reamer is advanced over a second guide pin.

Sanford, however, teaches an implant site for a bone (Fig. 19, 72) wherein a second working axis is established, in part, by advancing first (Fig. 1, 34) and second (Fig. 1, 40) guide pins into said bone, said guide pins extending from said bone (Fig. 19, where pins 34 and 40 are extending from bone 72). At the time of the invention it would have been obvious to one skilled in the art to include the second guide pin taught by Sanford in the method of Ek. The motivation for doing so would be to established increased support for the implant during and after the procedure.

Claims 7, 8, 10 and 16 lack an inventive step under PCT Article 33(3) as being obvious over Ek, in view of Winslow.

Regarding claim 7, Ek discloses the method of claim 5. Ek does not disclose the method further comprising: advancing a sizing trial implant into, at least in part, said first and second sockets, said sizing trial implant having a curvature of at least one surface thereof based on said plurality of points; and confirming that said sizing trial implant fits within said first and second sockets.

Winslow does however teach implantation of prosthetic bone (abstract) comprising advancing a sizing trial implant into, at least in part, said first and second sockets (para. 28, where the trial implant in position in the implant site), said sizing trial implant having a curvature of at least one surface thereof based on said plurality of points; and confirming that said sizing trial implant fits within said first and second sockets (para. 29, where the trial implant is sized to properly fit and determine the location and position of the implant).

At the time of the invention it would have been obvious to one skilled in the art to include the measuring of the implant site as taught by Winslow in the method of Ek. The motivation for doing so would be to properly deduce the position and size of the actual implant prior to implantation, which would assist in avoiding complications.

Regarding claim 8, Ek discloses the method of claim 5. Ek does not disclose further comprising: applying bone adhesive to said implant; and installing said implant, at least in part, into said first and second sockets in the bone.

Winslow does however teaches an implantation of prosthetic bone (abstract) further comprising: applying bone adhesive to said implant; and installing said implant, at least in part, into said first and second sockets in the bone (para. 24). At the time of the invention it would have been obvious to one skilled in the art to include the bone cement taught by Winslow in the method of Ek. The motivation for doing so would be to properly affix the implant to the implant site.

(Continued in Supplemental Box)

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**International application No.
PCT/US2009/035889**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.
Continuation of: